

Talking Alarm Clock

User Manual

V1.00

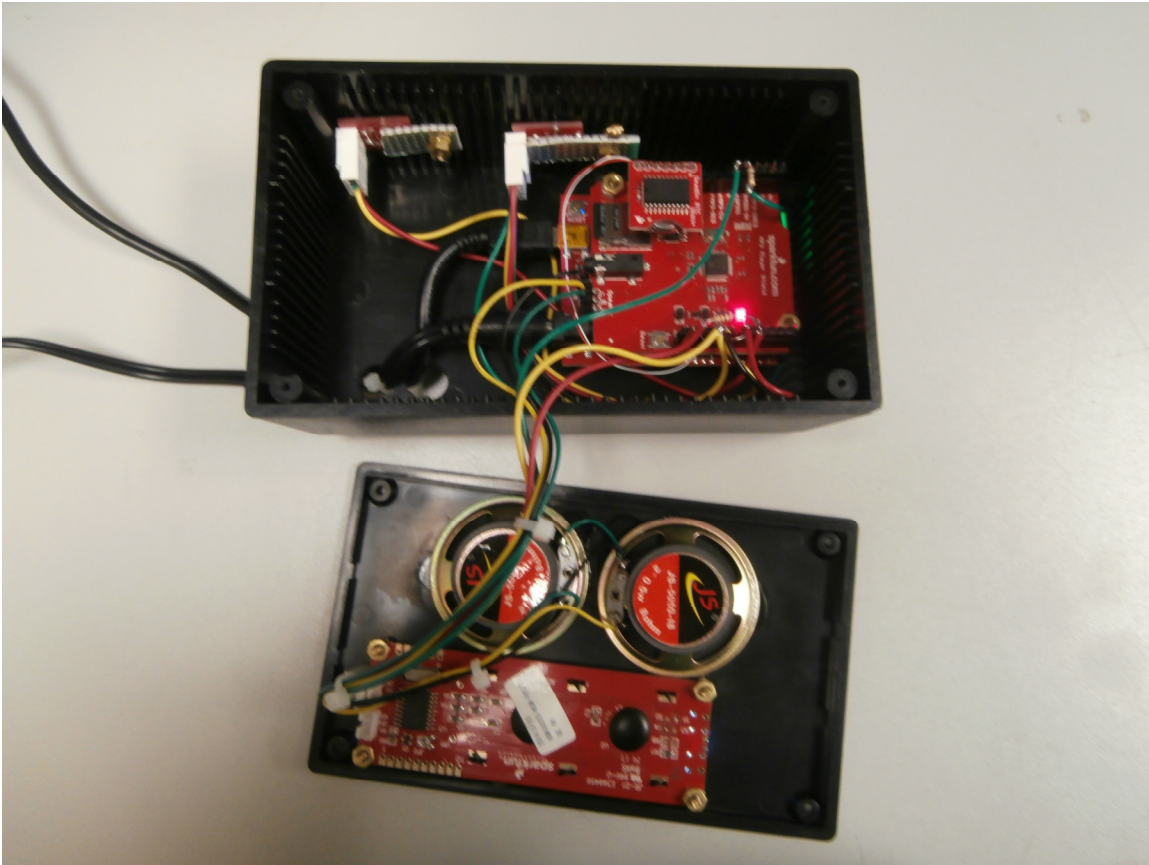
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Alarm Clock Photos.

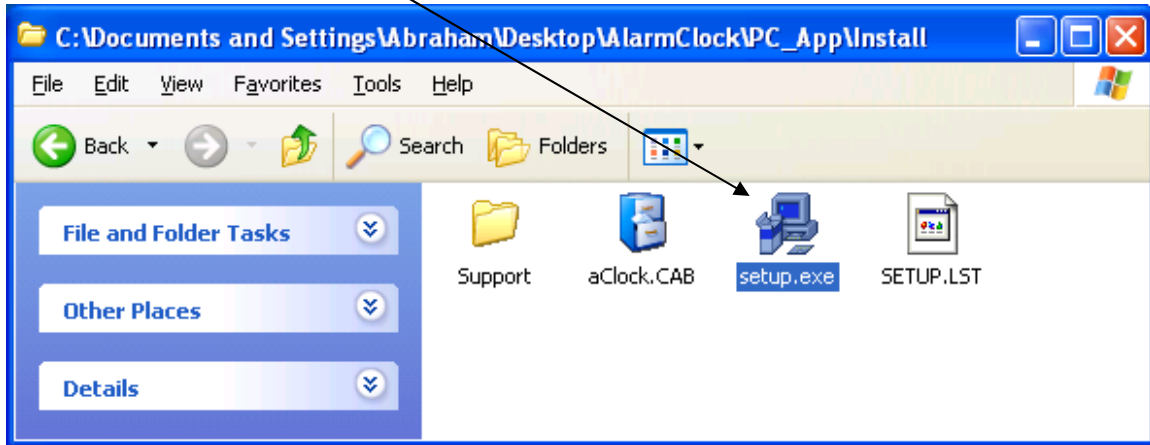


Alarm Clock Photos. (continued)



Install Alarm Clock software on PC.

1. Download files to local **c:** drive.
2. Open “**Alarm Clock Install**” folder.
3. Click on “**setup.exe**” file.

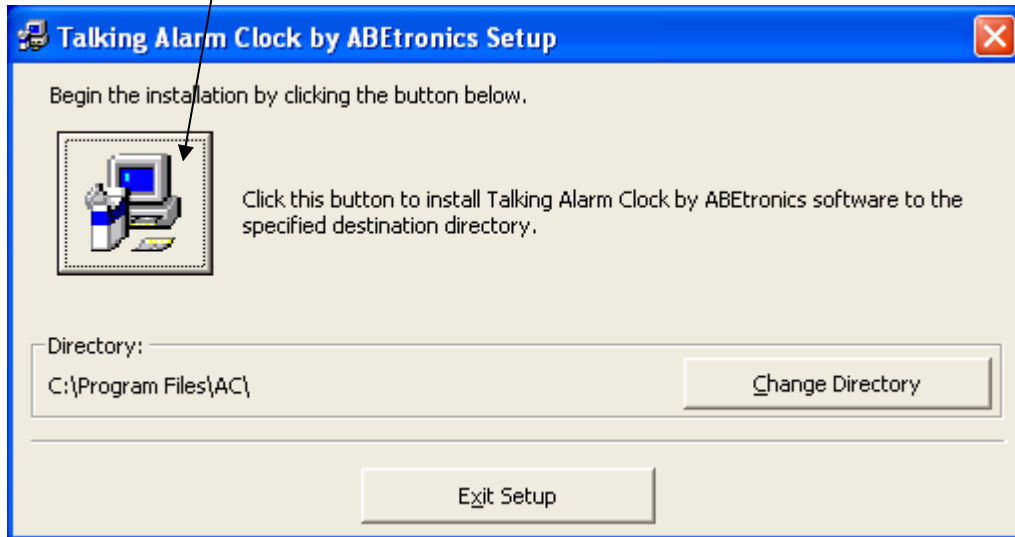


4. A “Welcome” window will appear. Click on “**OK**” button.

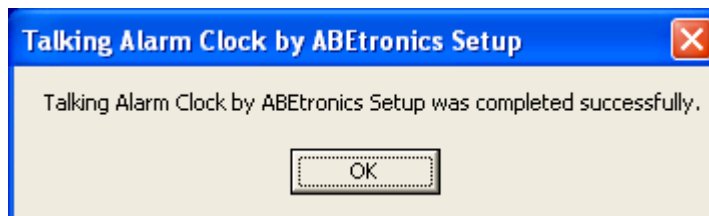


Install Alarm Clock software on PC. (continued)

5. Install program in default directory (C:\Program Files\AC)
6. Click on this button to start installation.



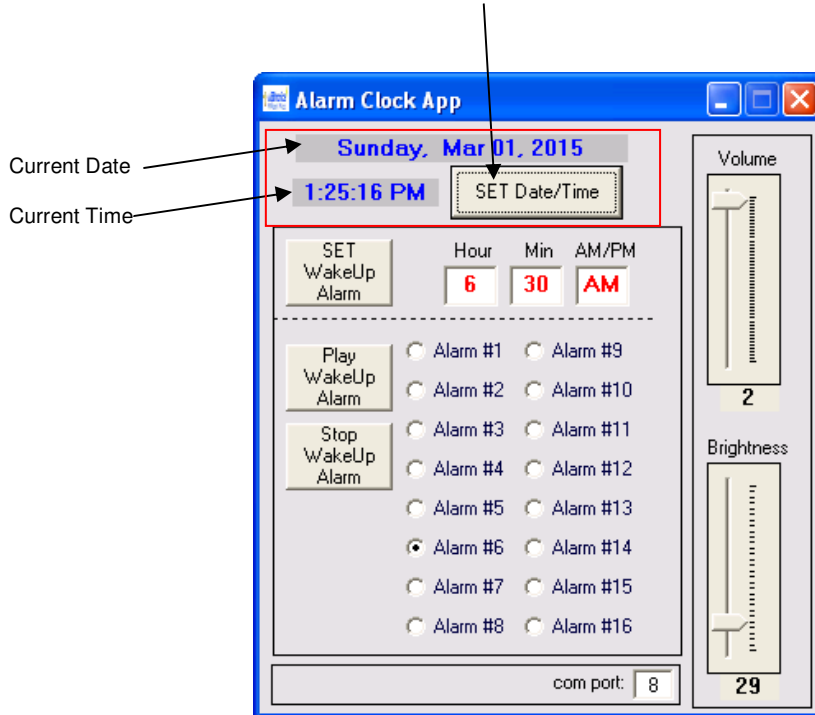
7. Click on “**Continue**” button to continue installation.
8. Set-Up completed successfully window will appear.



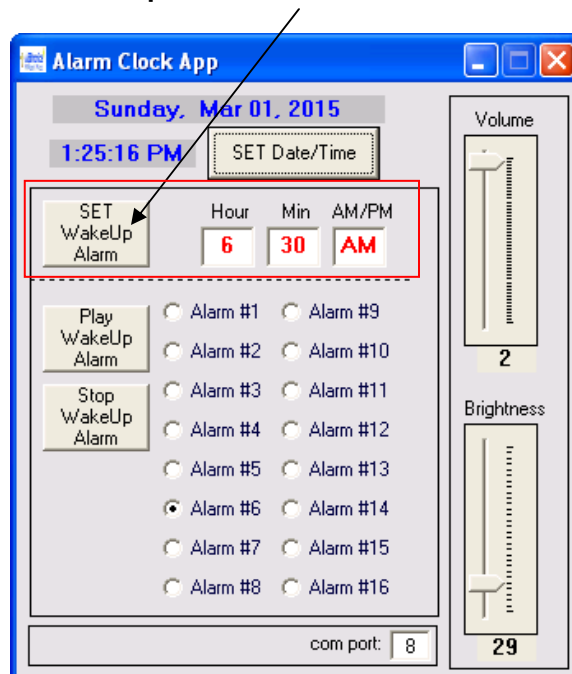
9. To run program, click on Start button then Talking Alarm Clock icon in list.

Set-Up Alarm Clock features on PC.

- **Set Current Time:**
 - Click on “SET Date/Time” button to download current time.



- **Set Wake-Up Alarm:**
 - Enter Alarm Hour, Min and AM/PM.
 - Click on “SET Wakeup Alarm” button to download alarm time.

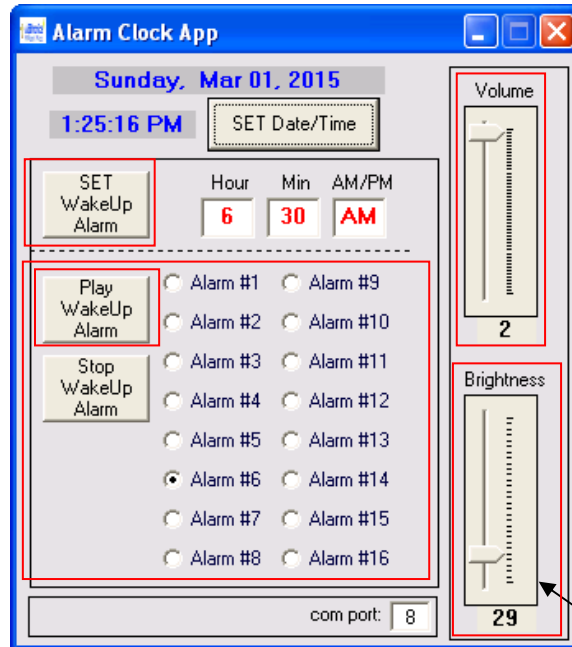


Note:

When the WakeUp Alarm is downloaded, the alarm track and volume are also downloaded at this time. All data is stored in the RTC battery backed up RAM.

Set-Up Alarm Clock features on PC. (continued)

- **Play Alarm Track and Set Volume:**
 - Click on an Alarm track # (1-16).
 - Click on the **"Play Wakeup Alarm"** button to listen to wake up alarm.
 - Change the volume by moving the **"slider"** up/down.
 - Click on the **"Play Wakeup Alarm"** button to hear volume change.
 - When satisfied, Click on **"SET Wakeup Alarm"** button to download new alarm settings.



- **Create MP3 audio files. (MP3 file and uSD card set-up)**
 - Format the uSD card: FAT16 or FAT32.
 - MP3 audio file: 32kbps bitrate with a 48kHz samplerate.
 - The SDFat library only supports "8.3" file names. (i.e. track###.mp3").
 - Track001 – 059 = 1 to 59.
 - Track101 – 109 = 01 to 09.
 - Track150 – 165 = alarm audio clip #1 to #16.
 - Track200 = The Time Is.
 - Track201 = AM.
 - Track202 = PM.
 - Track210 = Have a Nice Day.
 - Track211 = O-Clock.
 - Track220 = Good Morning.
 - Track221 = Good Afternoon.
 - Track222 = Good Evening.
 - Track223 = Good Night.
 - Track224 = System Ready.
 - Track225 = Hello.
- **Set Display Brightness:**
 - Change the display brightness by moving the **"slider"** up/down.

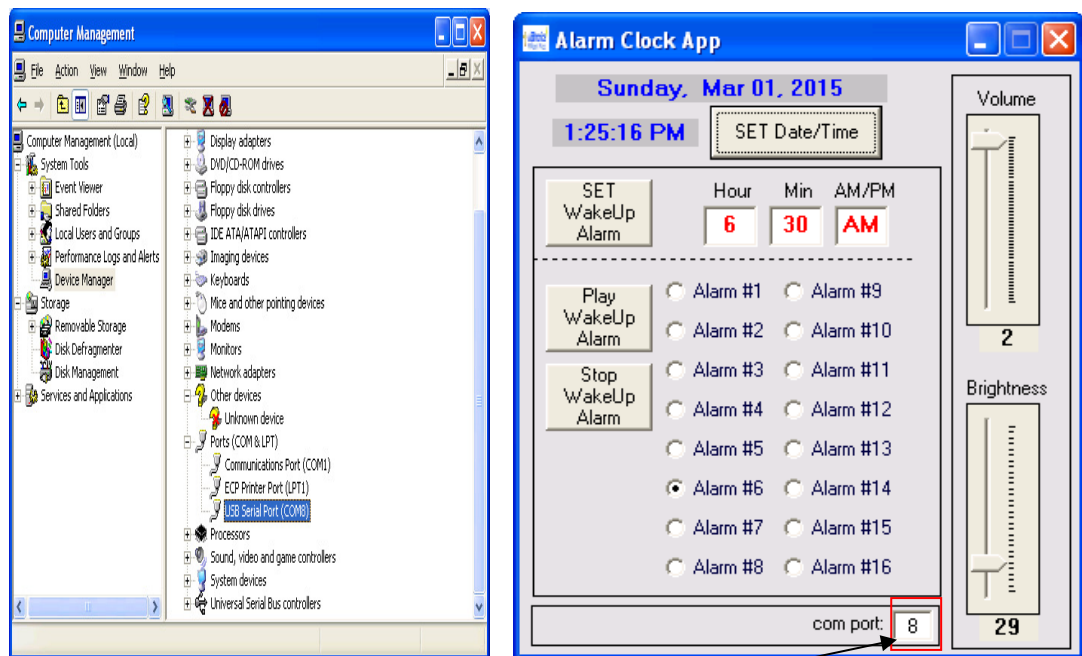
Set-Up Alarm Clock features on PC. (continued)

- **Default Setup File Settings. (setupdata.ini)**

Contents:

Alarm Hour = 6
Alarm Minute = 30
Alarm AMPM = AM
Alarm Volume = 2
Alarm Track = 151
Serial COM Port # = 8
Display Brightness = 129

- **Set COM port (PC to alarm clock communication)**
 - Connect the USB cable from the alarm clock and plug into PC.
 - Go to Control Panel to access Computer Management. Then go to Device Manager and select Ports (COM) to display the USB Serial Port #. (in this case USB serial port is 8)



- Enter the USB serial port number.

Note:

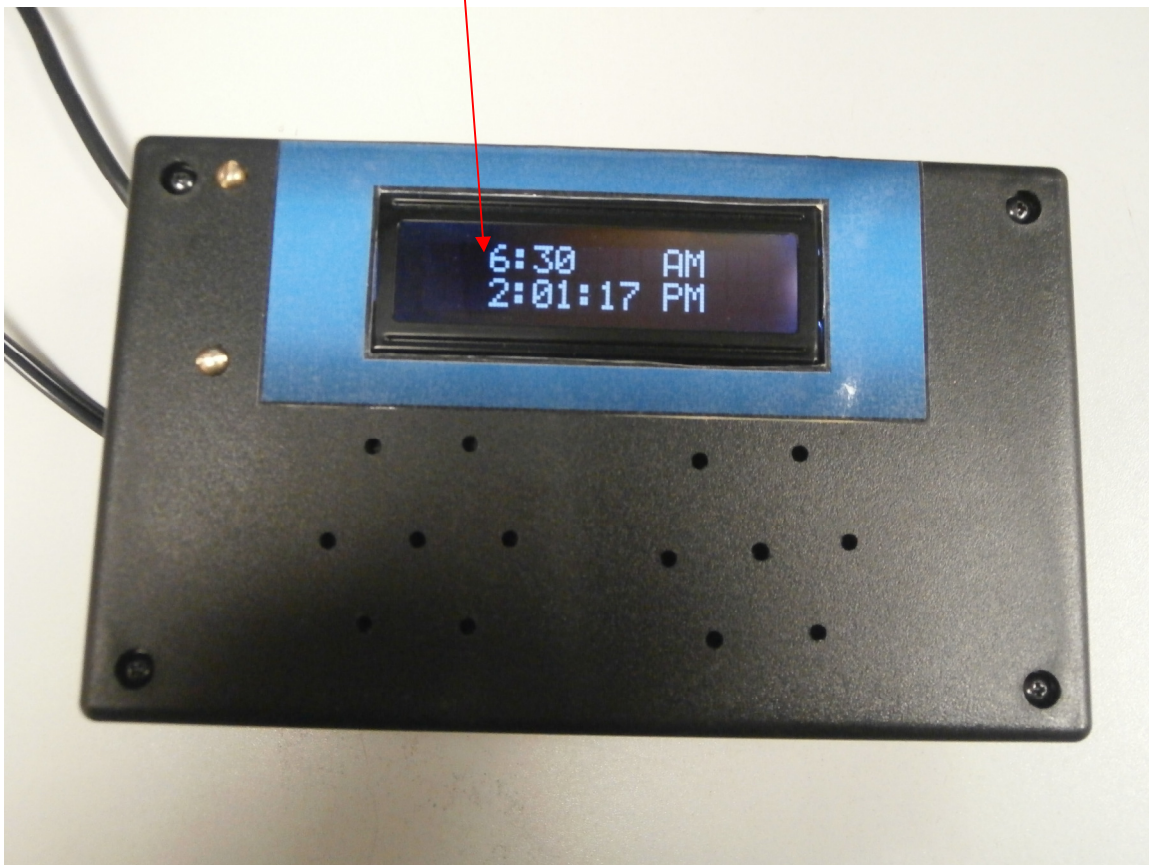
If this box turns red when trying to set times, indicates that the cable is not connected or the incorrect serial port number was entered.

Alarm Clock Operation:

- **Set Alarm Time.**
 - Press the red “Set” button on top of the box.



- The date on the first line of the display will be replaced with the wakeup alarm time.



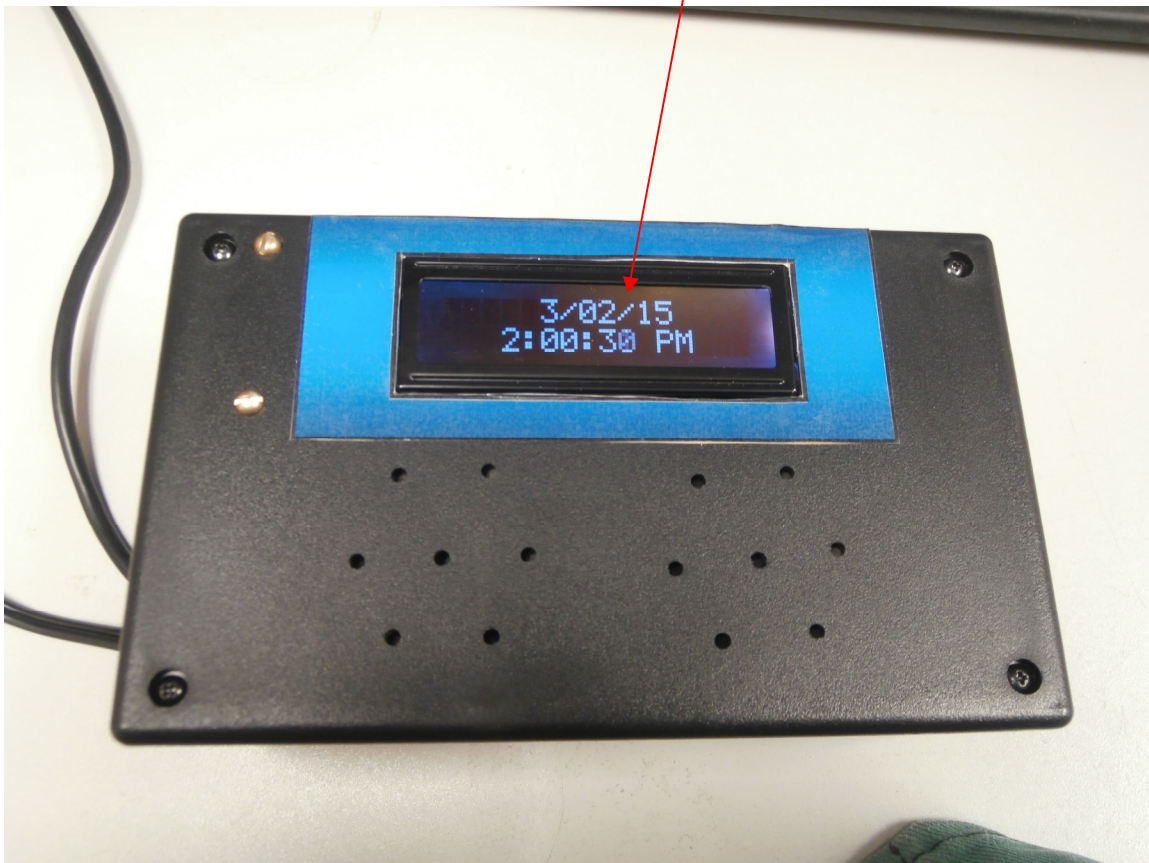
- Press the red “Set” button again to turn off wakeup alarm mode.

Alarm Clock Operation: (continued)

- **Announce Time.**
 - Press the “**Snooze**” button on top of the box for the current time to be spoken. (only when wakeup alarm mode is not set)



- Display shows date on the first line of the display, indicating that the wakeup alarm mode is not set.

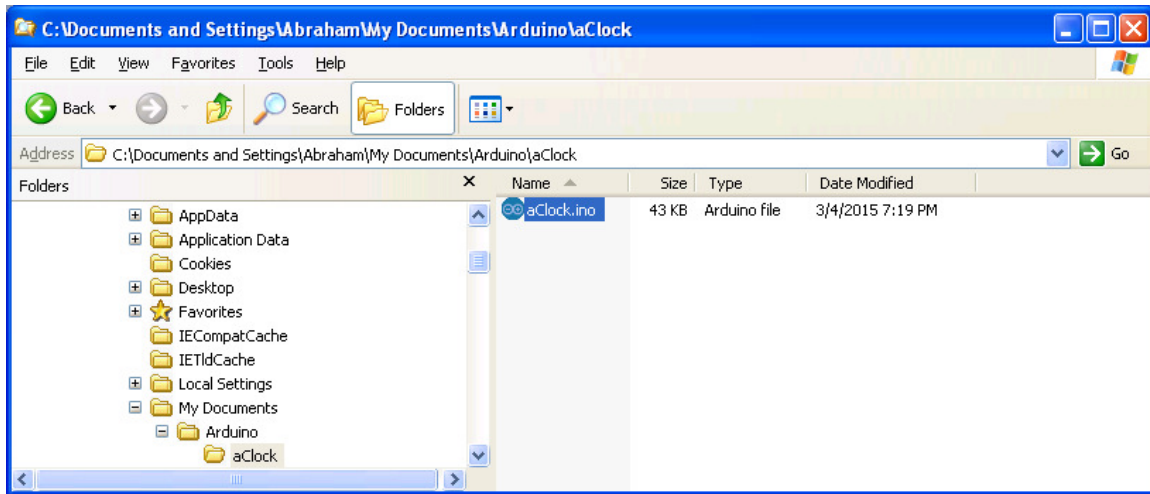


Alarm Clock Operation: (continued)

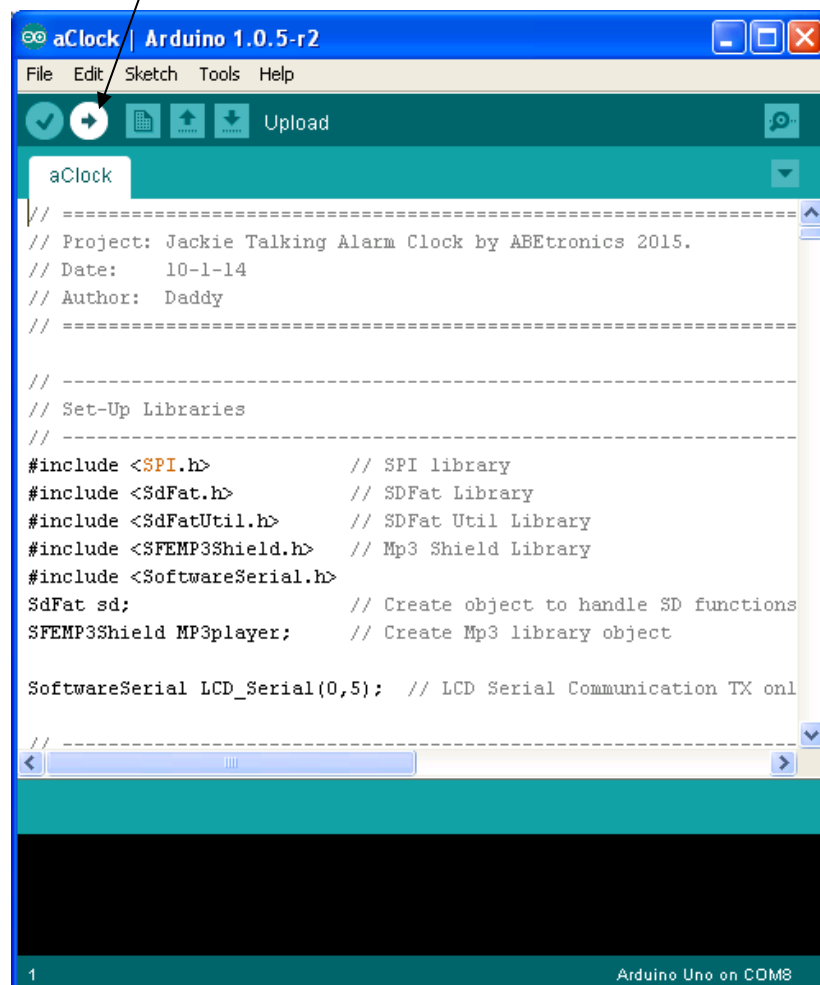
- **Silence Wakeup Alarm. (3 options)**
 - Press the red **“Set”** button to turn off the Wakeup Alarm mode.
 - Press the **“Snooze”** button to temporarily turn off the wakeup alarm.
 - The **“Snooze”** button light will turn on.
 - The alarm will sound again every 7 minutes.
 - If neither button is pressed, the alarm will sound for 40 seconds and then automatically shut off. The **“Snooze”** button light will remain on until the **“Set”** button is pressed.
 - Wakeup Alarm: 1 of 16 alarm tracks that was selected. (currently songs)

Upload Firmware to Uno board.

1. Make new sketch folder under Arduino in My Documents.



2. Open the “aClock.ino” file.
3. Click on the “upload” button.



Hardware Parts List:

Parts from SparkFun:

QTY	SKU	Product Name	
1	BOB-10160	DeadON RTC – DS3234 Breakout	\$19.95
1	BOB-10467	LED Tactile Button Breakout	\$ 1.50
1	COM- 10302	Tactile Button Assortment	\$ 4.95
1	COM-10443	LED Tactile Button – Blue	\$ 1.95
1	PRT-00337	Coin Cell Battery – 12mm (CR1225)	\$ 1.95
1	DEV-12757	RedBoard - Programmed with Arduino	\$19.95
1	DEV-10628	MP3 Player Shield	\$39.95
1	SEN-08733	3-Pin JST	\$ 1.50
1	LCD-09395	Serial Enabled 16x2 LCD	\$24.95
2	COM-09151	Speaker - 0.5W (8 ohm)	\$ 1.95
1	COM-11609	MicroSD Card with Adapter - 8GB	\$13.95
1	RTL-11302	USB Cable - A-to-miniB 6 Ft (for Uno board)	\$ 4.95

Parts from Jameco Electronics:

QTY	SKU	Product Name	
1	18893	High Class ABS Plastic Speedy Box Enclosure 6.0"L x 3.5"W x 1.9"D	\$ 4.95
1	1950497	12vdc AC to DC Power Supply Wall Adapter	\$15.95
1	690620	100 ohm Resistor (10)	\$0.099
2	691104	1000 ohm Resistor (10)	\$0.099